

### R E M A R K S

Careful review and examination of the subject application are noted and appreciated. The present invention concerns a time-shifted video method. The method generally comprises the steps of (A) buffering an input signal having a digital video format, (B) compressing the input signal substantially simultaneously with the buffering, (C) in a real-time mode, delivering a plurality of real-time video frames along a first processing path to an output for display in response to the input signal as buffered, (D) in a time-shifted mode, delivering a plurality of time-shifted video frames along a second processing path to the output for display in response to the input signal as compressed, the time-shifted video frames being delayed relative to the real-time video frames and (E) pausing at a particular one of the real-time frames during a transition from the real-time mode to the time-shifted mode.

### SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments can be found in the specification, for example, on page 4 line 21 thru page 5 line 8, page 5 line 28 thru page 6 line 33 and FIGS. 3, 4 and 5 as originally filed. Thus, no new matter has been added.

### INTERVIEW SUMMARY

Applicant's representative (Christopher P. Maiorana) spoke via telephone with Examiner Hoyer on September 25, 2003 regarding the finality of the September 2, 2003 Office Action. An agreement was reached that the September 2, 2003 Office Action would be changed to a non-final Office Action.

### CLAIM OBJECTIONS

The objections to claims 13, 16 and 17 for informalities have been obviated by appropriate amendment and should be withdrawn.

### CLAIM REJECTIONS UNDER 35 U.S.C. §102(b)

The rejection of claims 1-8, 10, 11, 16-19 and 21-24 under 35 U.S.C. §102(b) as being anticipated by Russo et al. '383 (hereafter Russo) has been obviated by appropriate amendment and should be withdrawn.

Russo concerns a video time-shifting apparatus (Title). However, Russo does not appear to disclose or suggest every element as arranged in the claims. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 1 provides the steps of buffering an input signal and compressing the input signal substantially simultaneously. In contrast, Russo appears to disclose compressing (compressor 107) and buffering (to a disk 116) sequentially. Therefore, Russo does not appear to disclose or suggest buffering an input signal and compressing the input signal substantially simultaneously as presently claimed.

Claim 1 further provides the steps of delivering a plurality of real-time video frames along a first processing path to an output for display in a real-time mode and delivering a plurality of time-shifted video frames along a second processing path to the output for display in a time-shifted mode. In contrast, FIG. 1 of Russo appears to show a single processing path (i.e., from line 104 to write circuitry 122, disk 116, read circuitry 130 display generator 144 and finally line 108) for both live and time-shifted modes. The remaining sections of Russo appear to be silent regarding multiple processing paths for the different modes. Therefore, Russo does not appear to disclose or suggest delivering a plurality of real-time video frames along a first processing path to an output for display in a real-time mode and delivering a plurality of time-shifted video frames along a second processing path to the output for display in a time-shifted mode as presently claimed. As such, the claimed invention is fully patentable over Russo and the rejection should be withdrawn.

Claim 21 provides a frame buffer directly connected to an input and a frame storage system directly connected to the input. In contrast, neither the disk 116 (asserted similar to the claimed frame buffer) or the frame store (asserted similar to the claimed frame storage system) appear to be directly connected to the input path 104 of Russo. Therefore, Russo does not appear to disclose or suggest a frame buffer directly connected to an input and a frame storage system directly connected to the input as presently claimed.

Claim 21 further provides a frame buffer configured to generate a first output signal, a time-shifted decoder configured to generate a second output signal and a controller configured to generate a command configured to control presenting (i) the first output signal when in a first mode and (ii) the second output signal when in a second mode. In contrast, Russo appears to show that a first signal read from the disk 116 (asserted similar to the claimed frame buffer) is either always presented to (i) the decompressor 140 (asserted similar to the claimed time-shifted decoder) or (ii) the display generator 144 (along path 131). If the first signal read from the disk 116 is always presented to the decompressor 140, the system of Russo only presents a second signal generated by the decompressor 140 at the output path 108. If the first signal read from the disk 116 is always presented directly to the display generator 144, the decompressor 140 has no video signal

to decompress and thus there is no second signal to be presented at the output path 108. In either case, the system of Russo does not appear to be capable of presenting (i) a first output signal when in a first mode and (ii) a second output signal when in a second mode as presently claimed. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 22 provides a controller configured to receive a video input signal. Despite the assertion on page 6, line 11 of the Office Action, the system controller 112 of Russo does not receive a video input signal. The video program on the input path 104 of Russo appears to be received by the A/D 105 and/or the write circuitry 122. Therefore, Russo does not appear to disclose or suggest a controller configured to receive a video input signal as presently claimed.

Claim 22 further provides both a real-time decoder and a time-shifted decoder. In contrast, Russo appears to be silent regarding multiple decoders. Therefore, Russo does not appear to disclose or suggest a real-time decoder and a time-shifted decoder as presently claimed.

Claim 22 further provides that the real-time decoder is configured to (i) generate a first output signal in response to decompressing the video input signal and (ii) pause a frame of the first output signal during a transition from a first mode to a

second mode. In contrast, the decompressor 140 of Russo does not appear to be capable of pausing a frame of the signal presented to the D/A converter 142. Therefore, Russo does not appear to disclose or suggest a real-time decoder configured to (i) generate a first output signal in response to decompressing a video input signal and (ii) pause a frame of the first output signal during a transition from a first mode to a second mode as presently claimed.

Claim 22 further provides that the time-shifted decoder is configured to generate a second output signal in response to the video input signal received from a controller. In contrast, Russo appears to be silent regarding the system controller 112 presenting a video signal to any other circuit. Therefore, Russo does not appear to disclose or suggest a time-shifted decoder configured to generate a second output signal in response to a video input signal received from a controller as presently claimed. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 23 provides an encoder configured to generate a second signal, wherein the second signal is stored in a buffer. In contrast, Russo appears to be silent regarding a signal generated by the compressor 107 being stored in a buffer other than the disk 116 (already asserted to be similar to the claimed frame buffer). Therefore, Russo does not appear to disclose or suggest an encoder

configured to generate a second signal, wherein the second signal is stored in a buffer as presently claimed.

Claim 23 further provides a switch configured to present an output signal comprising (i) a first signal when in a real-time mode and (ii) the second signal retrieved from the buffer when in a time-shifted mode. In contrast, Russo appears to be silent regarding a switch responsive to a mode and receiving two signals. Therefore, Russo does not appear to disclose or suggest a switch configured to present an output signal comprising (i) a first signal when in a real-time mode and (ii) a second signal retrieved from a buffer when in a time-shifted mode as presently claimed. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 18 provides that the apparatus comprises a set-top box. Applicant's representative respectfully traverses the assertion on page 7, lines 11-12 of the Office Action that satellite or cable transmissions inherently include some form of a set-top box as a receiver for video processing. Inherency requires certainty of results, not mere possibility (see, e.g., *Ethyl Molded Products Co. v. Betts Package, Inc.*, 9 USPQ 2d 1001 (E.D.Ky 1988)). See also, *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)). Modern television receives are known to be "cable ready" meaning a direct connection may be made between the television and the cable without a set-top box. Therefore, a set-top box is not

certain to receive a cable transmission and thus is not inherent. As such, the claim 18 is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 24 provides that a transition is seamless to a viewer. Applicant's representative respectfully traverse the assertion on page 5, lines 1-2 of the Office Action that a seamless transition is inherent to the design of Russo. Inherency requires certainty of results, not mere possibility. Since the disk 116 of Russo has a limited capacity, it is not certain that the video program will seamlessly transition when a RESUME command is issued a long time after a PAUSE command has been issued. The video frames immediately following the paused frame may be overwritten before the RESUME command is received thus causing a non-seamless jump in the video program.

**CLAIM REJECTIONS UNDER 35 U.S.C. §103**

The rejection of claims 9, 13-15 and 20 under 35 U.S.C. §103(a) as being unpatentable over Russo has been obviated in part by appropriate amendment and is respectfully traversed in part and thus should be withdrawn.

Claim 20 provides a real-time decoder configured to generate a first output signal and a time-shifted decoder configured to generate a second output signal. Despite the assertion on page 9, lines 13-17 of the Office Action, the multiple



heads 132, 134, 124 and 126 of Russo do not appear to support an implementation having multiple decoders generating different output signals. In particular, column 7, lines 2-14 of Russo explain that the multiple read heads 132 and 134 are used to ensure reading a single video stream without discontinuity when a boundary of a disk is reached. Since only one stream of video is available from the multiple read heads 132 and 134, implementing two decoders would only result in two copies of the same video signal, not two different video signals (e.g., real-time and time-shifted). Therefore, no reasonable expectation of success appears to exist that adding a second decoder to Russo would result in a second output signal as presently claimed. As such, *prima facie* obviousness has not been established for lack of a reasonable expectation of success (MPEP §2142).

Furthermore, the Office Action does not provide clear and particular motivation for the suggested modification of Russo. In particular, the asserted motivation on page 9, lines 14-15 of the Office Action that "multiple separate decoders would be advantageous to perform multiple tasks independently and/or simultaneously" appears to use circular logic. The modification itself cannot be used as motivation to make the modification. Instead, the motivation must come for the references or from knowledge generally available to one of ordinary skill in the art (MPEP §2142). Therefore, the Office Action has failed to establish

*prima facie* obviousness for lack of clear and particular motivation evidence to modify Russo.

Claim 20 further provides that the real-time decoder is configured to pause a frame of the first output signal during a transition from a first mode to a second mode. In contrast, Russo appears to be silent regarding a frame pause capability in the read circuit 130 and/or the display generation circuitry 140 (asserted to be similar to the added real-time decoder per the suggested modification). Instead, column 5, line 62 thru column 6, line 12 of Russo appear to allocate the frame pause capability to the disk 116. The disk 116 stores the video frames and one of the frames appears to be read and displayed repeatedly to implement the pause operation. Therefore, Russo does not appear to teach or suggest a real-time decoder configured to pause a frame of a first output signal during a transition from a first mode to a second mode as presently claimed.

Furthermore, Applicant's representative respectfully traverses the assertion on page 9, lines 10-12 of the Office Action that satellite or cable transmissions inherently include some form of a set-top box as a receiver for video processing. Inherency requires certainty of results, not mere possibility. Modern television receives are known to be "cable ready" meaning a direct connection may be made between the television and the cable without a set-top box. Therefore, a set-top box is not certain to receive

a cable transmission and thus is not inherent. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 15 provides a first processing path for a real-time mode and a second processing path for a time-shifted mode. In contrast, Russo appears to be silent regarding individual processing paths for different modes. Furthermore, the asserted motivation on page 10, lines 2-4 of the Office Action modifying Russo to have separate decoders in separate processing path appears to be irrelevant since no decoders are provide in either claim 15 or base claim 23. The Office Action appears to have mistaken claim 15 as dependent from claim 20. Therefore, no *prima facie* obviousness has been established for lack of motivation to modify Russo to provide a first processing path for a real-time mode and a second processing path for a time-shifted mode as presently claimed. As such, claim 15 is fully patentable over the cited reference and the rejection should be withdrawn.

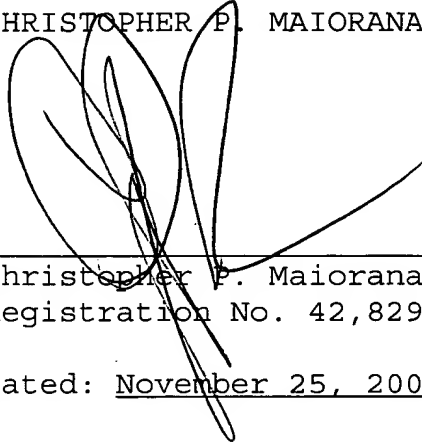
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicant's representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit  
Account No. 12-2252.

Respectfully submitted,

CHRISTOPHER P. MAIORANA, P.C.

A large, stylized handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

---

Christopher P. Maiorana  
Registration No. 42,829

Dated: November 25, 2003

c/o Sandeep Jaggi  
LSI Logic Corporation  
1621 Barber Lane, M/S D-106 Legal  
Milpitas, CA 95035

Docket No.: CC-084 / 1496.00251